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ABSTRACT

Two studies addressed the relative strengths of object kind bias and syntactic knowledge in 2-year-olds' inductions of word meaning. The study looked at children's interpretations of novel proper names for familiar and unfamiliar objects. In each study, 10 children were assigned to each of 2 conditions (familiar and unfamiliar) and shown 2 cats (familiar) or 2 monsters (unfamiliar), similar within each pair except for their dress. One was named, and one was not. The children were told to do something specific with the named object. As predicted, they chose the named object much more often in the "familiar" condition than in the "unfamiliar" condition. Spontaneous comments made by the children were of two types: one referring to the second object as having the same name as the first, indicating an extension of the given name as a common noun; and the other asking the name of the second object, suggesting an extension of the given name as a proper noun. The former was more common in the "unfamiliar" condition, and the latter more common in the "familiar" condition. It is concluded that the first words used for objects are interpreted as referring to object kind, and that object-kind bias is a bias to acquire a lower-level term. (MSE)

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ACQUIRING PROPER NAMES FOR FAMILIAR AND UNFAMILIAR ANIMATE OBJECTS: EVIDENCE FROM TWO-YEAR-OLDS

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When children hear a new word for an object, they have to decide, among other things, whether the word is a proper name that refers to the individual (e.g., "Garfield") or a common count noun that refers to an object kind of which the individual is a member (e.g., "the cat"). Two types of knowledge may help word learners decide correctly whether a word is a proper or a common noun. One source of knowledge is semantic: properties of particular kinds of objects make them good candidates for receiving proper names. For example, children may realize that the individuality of the members of many kinds of animate objects, like people and pets, is important, but that the individuality of members of other kinds, such as pencils or socks, is not. A second source of knowledge is syntactic: certain linguistic cues make some words better candidates for being proper names. For example, children may know that in English, determiners precede common names; we say "a cat" or "the pet". They may also know that proper nouns are typically not preceded by determiners; we say "Garfield".

Two previous studies have examined the acquisition of proper and common nouns in young children. The first of these was a seminal study by Katz, Baker, and Macnamara (1974) in which 2-year-olds learned a new word for a familiar object. The word was modeled either as a proper name (e.g., "This is Zav") or as a common noun (e.g., "This is a zav"), and the object was either a doll or a block. Children were asked to perform a series of actions with "Zav" or "a zav", including feeding the doll or putting the block in a house. Katz et al. looked at the percentage of times children chose the named object when performing the various actions. If a child chose the named toy consistently, then they inferred that the child had made a proper name interpretation. If a child chose randomly between the two toys, they inferred that the child had made an interpretation that was consistent with a common noun.

Katz et al. found that their 2-year-olds used both semantic and syntactic knowledge in interpreting the new words. Specificially, they found that the syntactic form of the word--whether it was modeled as a common noun or as a proper noun--affected children's selections for the dolls, but not for the blocks. Children who were taught a proper noun for a doll frequently selected the named doll (on 75% of trials). Children who were taught a common noun for a doll chose randomly between the two dolls, consistent with a common noun interpretation. Children who learned either a proper name or a common name for a block chose randomly between the two objects. Katz. et al. interpreted their results as showing that very young children know that the individuality of members of certain familiar kinds (e.g., dolls) is important, and that this individuality is marked linguistically in a particular way, that is, through the use of proper names.

The second study that examined the acquisition of common and proper names was Gelman and Taylor (1984). This study replicated the Katz et al. results, although the procedure differed in several ways. In addition to elaborating and standardizing the test

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procedure in important ways, one of their principal changes was to use toys that were unfamiliar to the children. The authors pointed out that the children in the original study probably already knew that the objects were "dolls" or "blocks". They switched to unfamiliar objects--novel creatures instead of dolls, novel toys instead of blocks--to remove the possibility that the children had been confused because of a preference not to accept a new common noun for an object with a known label.

With these changes to the procedure, Gelman and Taylor replicated the Katz et al. findings, by again showing that for stuffed unfamiliar creatures, children made frequent proper name interpretations of a word modeled as a proper name. On 69% of trials, children selected the named object. In no other condition did children make a consistent proper name interpretation, consistent with the Katz et al. findings.

The results from these studies suggest that children are sensitive to both semantic and syntactic cues in acquiring proper and common nouns, regardless of whether the named objects are familiar or unfamiliar. Yet while it would not be safe to compare directly the results of the two preceding studies because of considerable procedural differences, it is interesting to consider these results in light of other recent experimental evidence suggesting striking differences between young children's interpretations of new words for familiar and unfamiliar objects.

Soja, Carey, and Spelke (in press; Soja, 1990) have suggested that when young children hear a new word for an unfamiliar object, they think that the word refers to a kind of object, regardless of the word's syntactic frame. These authors have reported that 2-year-olds' interpretations of novel words for unfamiliar objects did not differ, whether the syntax suggested a count noun interpretation ("This is a blicket"), a mass noun interpretation ("This is blicket"), or neither such interpretation ("This is my blicket"). Under all syntactic conditions, children made equally frequent object kind interpretations.

Markman and Wachtel (1988) found that 3-year-olds will override clear syntactic cues in order to interpret the first word for an unfamiliar object as referring to the kind of object. Children who heard "See this? It's pewter" (a novel word modeled as a mass noun) applied to an unfamiliar object (pewter tongs) often interpreted the word as an object kind term by extending it to other tongs (not made of pewter). Only children who learned the new label for an already familiar object (for example, a cup) used the syntax appropriately to interpret the word as referring to the substance the object was made of.

The Soja et al. (1990) and Markman and Wachtel (1988) results thus showed that children will override mass noun syntax to interpret a new word as a common count noun referring to a kind of objects. However, it also follows from the object kind bias hypothesis that young children should not interpret the first words for unfamiliar objects as proper names, irrespective of whether the interpretation violates syntactic information. Markman and Wachtel (1988) made this prediction explicitly: "...when children hear someone label an object, they assume that the label refers to...the object category...and not to the object as a specific individual...[among other things]" (p. 122). However, this prediction has not yet been directly tested. The previous two studies of common and proper name acquisition have shown that children respected syntactic cues and made proper noun interpretations of intended proper names for animate objects, when the referent was

either familiar or unfamiliar. However, neither study directly compared unfamiliar and familiar objects.

The two studies I'll describe now were designed to assess clearly the relative strengths of the object kind bias and syntactic knowledge in 2-year-olds' inductions of word meaning. Which was more relevant to 2-year-olds' semantic inferences--the object kind bias or proper noun syntax? These studies compared children's interpretations of novel proper names for familiar and unfamiliar objects to find out.

Experiment 1

In the first study, twenty 2-year-old children participated. They ranged in age from 2-3 to 3-0, with a mean age of 2-8. Ten children were assigned randomly to each of two conditions, Familiar and Unfamiliar, with approximately equal numbers of boys and girls. Children were tested in only one condition.

The procedure was adapted from Gelman and Taylor (1984). In each condition, four stuffed toys were used. In the Unfamiliar condition, there were two unfamiliar monster-like animals of the same kind and two distractor creatures. The first pair of monsters were covered with blue fur. They looked identical except for their dress, which consisted of a hooded cape. These garments were made in two distinct materials and colors. The distractor items consisted of one familiar animal (a rabbit), and one unfamiliar monster-like animal of a different kind. The monster-like creatures were undoubtedly novel to the children. As an informal check of their unfamiliarity, however, they were shown to a group of eight 3- and 4-year-old children who were asked whether they had ever seen the kinds of things before. No child admitted ever having seen them before.

In the Familiar condition, the toys were two cats and two distractors. The cats were striped, and they looked identical except for their dress, which again consisted of hooded capes of the same materials and colors that were used to dress the unfamiliar monsters. The distractors were the same as in the Unfamiliar condition.

There were two parts to the study: a naming portion followed by a testing portion. In the naming portion, the experimenter placed a box in front of the child, removed one of the four toys from it, and showed it to the child. In the Unfamiliar condition, the child saw one member of the pair of monsters and was invited to handle the creature briefly. The experimenter used only the word "this" or "this one" to refer to the object. The experimenter then labeled the monster with a proper name in the following manner: "See? This is Zav". The child was asked to repeat the label. The experimenter then repeated the label in the same syntactic frame at least five times. In the Familiar condition, one of the two cats was shown. Many children spontaneously called the animal "a cat", "a kitty", or "a kitty-cat". In any case, the experimenter invited the child to handle the stuffed animal briefly, as in the Unfamiliar condition. During this time, the experimenter used the label "cat" to refer to the object, allowing the child either to hear that the experimenter agreed with the child's spontaneous label or, at least, to hear the object's familiar label. The experimenter then labeled the cat with a word modeled as a proper noun, exactly as in the Unfamiliar condition: "See? This is Zav". Again, the child was asked to repeat the label, and the experimenter then repeated the label at least five times.

To begin the testing portion of the task, the experimenter took the three remaining toys out of the box, one at a time, and placed them in front of the child. The experimenter then asked the child to carry out a series of 10 simple actions. Six of these actions were designated as test trials. On these trials, the experimenter asked the child to choose an object in response to a request that included the new name (e.g., "Can you put Zav behind your back?", "Can you put Zav in the box?"). On the four remaining filler trials, the experimenter told the child which object to handle (e.g., "Can you put this behind your back?", "Can you put that in the box?"). Each of the four toys was used once as a filler item, to decrease the likelihood that children would select any toy simply to handle it. The child could easily reach all four toys at all times.

Before considering the results, recall the prediction: To the extent that the object kind bias can override syntactic cues, these 2-year-olds should be more likely to select the named toy in the Familiar than in the Unfamiliar condition on the test trials.

To code the results, children were first given three scores to reflect the percentage of test trials (out of a total of six) on which they chose the named toy, the other toy of the same kind, or one of the distractor items.

The results showed clear differences between children's performance in the two conditions. In the Unfamiliar condition, they selected the named toy on 65% of test trials, the other member of the named kind on 33% of trials, and one of the distractors on 2% of trials. However, in the Familiar condition, they selected the named toy on 92% of trials. A t-test revealed that children were more likely to select the named toy in the Familiar than in the Unfamiliar condition ($t(18) = 3.01$, $p = 0.008$).

A more conservative coding of the data classified children into one of two groups according to whether they selected only the named toy across all test trials. This measure of the tendency to make a proper name interpretation is quite stringent. This stringency is not unrealistic, however, given that in real life proper nouns are used categorically, not probabilistically, to pick out individuals. A person cannot be said to be using "Garfield" as a proper name if the person uses it some or most of the time to refer uniquely to Garfield, but other times to refer to other cats (who are not called "Garfield"). If the 2-year-olds in this study had made a proper noun interpretation of the word, then they should never have selected anything other than the named toy, assuming that they could discriminate between toys of the same kind. Crucially, the discriminability of the two objects was controlled to a considerable extent between the Familiar and Unfamiliar conditions through the use of similar dress.

When children were classified in this way, a compelling difference emerged. While only 2 of the 10 children in the Unfamiliar condition chose only the named toy on all test trials, 8 of the 10 children in the Familiar condition selected only the named toy. This difference is significant by Fisher's exact test, $p = 0.011$.

While these results show a clear difference between children's performance in the Familiar and Unfamiliar conditions, two considerations suggest the value of a follow-up study. First, it would be valuable to check that the effect obtained in Experiment 1 held up with new stimuli. Thus, in Experiment 2, dogs replaced cats in the Familiar condition, and

different kinds of unfamiliar monsters were used in the Unfamiliar condition. The pairs of creatures again wore hooded capes of different materials and colors, and again the familiar creatures (the dogs) and the unfamiliar creatures were dressed in a similar manner. As a second consideration, it would be revealing to introduce the proper names under different circumstances. It is true that the stimuli used in Experiment 1 were all animate stuffed animals and presumably good candidates for receiving proper names. However, it could be that very young children rely on the semantic cue that only friends or family members (people or pets) can receive proper names. To address this concern, the procedure in Experiment 2 was modified slightly so that a hand puppet introduced the named toy (either familiar or unfamiliar) as his "pet". If children in the Unfamiliar condition had been reluctant to learn a proper name for a monster-like animal because they did not think a monster could possibly receive a proper name, then this modification should help to rule out that alternative. Everything else about Experiment 2 was the same as Experiment 1.

Experiment 2

Twenty 2-year-olds, with a mean age of 2-8, participated in this study. None had participated in Experiment 1.

The results were very similar to those from Experiment 1. As in Experiment 1, children were first given three scores to reflect the percentage of test trials on which they chose the named toy, the other member of the same object kind, and one of the distractor items.

In the Unfamiliar condition, they selected the named toy on 62% of trials, the other member of the named kind on 33% of trials, and one of the distractors on 5% of trials. However, in the Familiar condition, they selected the named toy on 88% of trials. A t-test showed that children were more likely to select the named toy in the Familiar than in the Unfamiliar condition ($t(18) = 2.59$, $p = 0.018$).

With the more conservative criterion whereby children were classified as having made a proper name interpretation if they selected only the named toy across all test trials, only 2 of the 10 children in the Unfamiliar condition made a proper name interpretation, while 7 of the 10 children in the Familiar condition made a proper name interpretation. This difference is significant by Fisher's exact test, $p = 0.035$.

Even in this replication designed to test the hypothesis with new stimuli and to examine acquisition under different teaching circumstances, children were more likely to make a proper name interpretation of a proper name applied to an animal when the animal was familiar than when it was unfamiliar. The difference between unfamiliar and familiar toys was again more striking when the dependent measure was the number of children who focused exclusively on the named toy. Knowing that the unfamiliar object could be labeled with the familiar superordinate count noun "pet" thus did not remove children's preference to interpret the novel proper name as referring to a kind of objects. This finding suggests that the object kind bias is an expectation for a lower-level kind label, presumably a basic-level kind label, for an unfamiliar object (cf. Rosch et al., 1976).

Children's Spontaneous Comments

In addition to the preceding data on children's object selections, a final source of data was perhaps most revealing of all. During the task, many children made spontaneous comments, especially when the toys were first all presented or when a particular toy was used on a filler trial. Given the young age of these children, these comments were quite striking. The patterns of occurrence of two types of comment were most revealing.

One type, to be called a common noun comment, involved a child's spontaneously and explicitly extending the novel label to the other member of the named kind, treating it syntactically as a common noun (e.g., by pluralizing it or by combining it with a determiner). These comments are revealing because all children had heard the word modeled only as a proper name (e.g., "This is Zav").

Consider a few of these comments:

Girl, 2-5. Pointing first to the other member of the same kind, then to the named toy, she said, "Two zavs! Two zavs again! Two zavs!". Asked to "put Zav in the box", she responded, "Two zavs in the box. I want to put two zavs in the box!"

Boy, 2-4. Pointing to the other member of the same kind, he said, "That a dax!"

Girl, 2-9. Pointing to the other member of the same kind, she said, "That's another zav! Two zavs!"

A second type of spontaneous comment, to be called a proper noun comment, revealed a proper name interpretation of the label. It occurred whenever a child spontaneously and explicitly restricted the label to the named toy, for example, when the child pointed to the unnamed kind member and asked what it was called.

Consider these examples of proper name comments:

Boy, 2-11. When the other member of the same kind was brought out, he touched it, and asked, "Who is this name?"

Boy, 2-9. When the other member of the same kind was brought out, he held it up and asked, "What's this called?"

Boy, 2-9. Pointing to the unnamed member of the same kind, he asked, "Who's this? Who's this one?"

If children had treated the novel labels equivalently in the two conditions, then these two kinds of comments (common noun comments and proper noun comments) should have been distributed equally between the two conditions. However, to the extent that the object kind bias overrode syntactic evidence, then common noun comments should have been more prevalent in the Unfamiliar condition, while proper name comments should have occurred more frequently in the Familiar condition. Indeed, a Fisher's exact test supported this hypothesis: $p = 0.024$. Seven of the 8 children who made common noun comments

were in the Unfamiliar conditions. All 3 of the children who made proper name comments were in the Familiar conditions.

Discussion

Two studies examined 2-year-olds' interpretations of novel proper names for familiar and unfamiliar objects. In the first study, children were more likely to interpret novel proper names appropriately when the words were applied to familiar than to unfamiliar animals. When the animals were unfamiliar, children frequently interpreted the words as common nouns, disregarding the proper name syntactic cues. When the animals were familiar, children were reliably more likely to interpret the words as proper names, making appropriate use of the proper name syntax. The second study replicated this result when the stimuli were different and when children were introduced to the named object by a puppet who used the familiar superordinate term "pet".

The finding from the first study, that children frequently interpreted words intended to be proper names as common nouns when the objects were unfamiliar, is strong evidence for the claim that the first words learned for such objects are taken to refer to a kind of objects, irrespective of the syntactic form of the word (cf. Soja et al., 1990; Soja, 1990; Markman and Wachtel, 1988). The result from the second study refines this claim by suggesting that the object kind bias is a bias to acquire a lower-level term (e.g., a basic-level term), because children who already knew a familiar superordinate term ("pet") for the otherwise unfamiliar objects still overrode syntactic evidence to make a common noun interpretation of a proper name.

The reliable difference between children's tendency to make a proper name interpretation in the familiar and unfamiliar conditions also provides support for the claim that children expect word meanings to contrast (Clark, 1987). When children knew no name for the kind of object, they tended to interpret the word as referring to a kind of object. When children already knew a name for the kind of object (e.g., "cat"), they sought a different interpretation of a second word learned for such objects, namely a proper name.

Several studies of lexical acquisition have stressed young children's sensitivity to syntactic cues to the meaning of new words (e.g., Brown, 1957; Taylor & Gelman, 1988; Waxman, 1990). This sensitivity is important, and must become increasingly important because it provides valuable semantic information for word learners. However, findings such as these, in addition to those by Markman and Wachtel (1988) and Soja (1990), suggest that there are circumstances under which syntactic evidence may be overruled, specifically, when it conflicts with the object kind bias. Up to what age this bias exerts such a strong influence on the interpretation of new words is still unknown, as is how this bias affects young children's interpretations of new words under more naturalistic circumstances. A commonly-heard anecdote concerns young children who overextend "Daddy" to include men other than their father, apparently treating the word as a common noun rather than as a proper name. Other evidence, however, suggests that young children rarely err in their interpretations of common and proper nouns, as Macnamara (1986) discusses, for example. An interesting, but challenging, question for future research is thus to specify further the conditions under which young children will, and will not, rely on syntactic evidence to interpret new proper names, and other words, correctly.

References

Brown, R. (1957). Linguistic determinism and the part of speech. Journal of Abnormal and Social Psychology, 55, 1-5.

Clark, E. (1987). The principle of contrast: A constraint on language acquisition. In B. MacWhinney (Ed.), Mechanisms of language acquisition (pp. 1-33). Hillsdale, NJ: Erlbaum.

Gelman, S. & Taylor, M. (1984). How two-year-old children interpret proper and common names for unfamiliar objects. Child Development, 55, 1535-1540.

Katz, N., Baker, E., and Macnamara, J. (1974). What's in a name? A study of how children learn common and proper names. Child Development, 45, 469-73.

Macnamara, J. (1986). A border dispute. Cambridge, MA: MIT Press.

Markman, E. and Wachtel, G. (1988). Children's use of mutual exclusivity to constrain the meanings of words. Cognitive Psychology, 20, 121-157.

Rosch, E., Mervis, C., Gray, W., Johnson, D., and Boyes-Braem, P. (1976). Basic objects in natural categories. Cognitive Psychology, 3, 382-439.

Soja, N., Carey, S., and Spelke, E. (in press). Ontological constraints guide young children's inductions about word meaning: Object terms and substance terms. Cognition.

Soja, N. (1990). Semantic inferences: The role of count/mass syntax. Paper presented at the Child Language Research Forum, Stanford University, Stanford, CA.

Taylor M. and Gelman, S. (1988). Adjectives and nouns: Children's strategies for learning new words. Child Development, 59, 411-19.

Waxman, S. (1990). Linguistic biases and the establishment of conceptual hierarchies: Evidence from preschool children. Cognitive Development, 5, 123-150.